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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,531	11/19/2003	Andreas Hachtel	R.304037	5581

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EXAMINER
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GOINS, DAVETTA WOODS

ART UNIT	PAPER NUMBER
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2632

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/715,531	<b>Applicant(s)</b> HACHTEL ET AL.	
	<b>Examiner</b> Davetta W. Goins	<b>Art Unit</b> 2632	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/12/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al.

(996 B2).

In reference to claims 1, 2, Wu discloses the claimed lambda sensor for a motor vehicle, having an indicator that indicates at least temporary thermal overload, the indicator comprising a body of indication material with at least one limit temperature of the component, which limit temperature when it is exceeded causes a microcontstructural change in at least one component of the indication material, which is met by a temperature sensitive clay material that is sensitive to temperatures that exceed a specific temperature, the chemical make-up of the clay will change in color due to the changes in the molecular orbital configuration within the crystal structure of at least a portion of the clay mineral (col. 4, lines 42-67; col. 4, lines 10-42; col. 5, lines 19-35).

Although Wu does not specifically disclose the claimed indicator changing permanently, he does disclose that the temperature-sensitive clay material may be mixed with an epoxy, wax, plastic or other material, or gels or foams to create a change in color (col. 6, lines 36-67; col. 7, lines 1-4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to

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include a material that changes its state permanently, to ensure that the viewer is capable of visually determining that the temperature that has been sensed has exceeded.

In reference to claim 3, although Wu does not specifically disclose the claimed indication material is solid which when the limit temperature is exceeded undergoes a microstructural change as a result of melting, he does disclose that the temperature-sensitive clay material may be mixed with an epoxy, wax, plastic or other material, or gels or foams to create a change in color (col. 6, lines 36-67; col. 7, lines 1-4). Since Wu discloses a material that can be mixed with just about any other material; such as plastics and gels, and continue to provide a color change once a temperature has exceeded a certain range, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a material that would melt, to ensure that the viewer is capable of visually determining that the temperature that has been sensed has exceeded.

In reference to claim 4, Wu discloses the claimed material is solid, which is met by the material can be placed in a solid clear plastic material (col. 7, lines 18-45).

In reference to claims 5, 6, Wu discloses the claimed indication material is a solid which when the limit temperature is exceeded undergoes a microstructural change as a result of oxidation, which is met by the material will change back to the original color upon oxidation of the chemically reduced material if the reduction takes place at room temperature (col. 4, lines 1-9).

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In reference to claims 7, 8, Wu discloses the claimed indication of material is a solid having material components which when the limit temperature is exceeded undergoes a microconstructural change as a result of chemical reaction, which is met by a temperature sensitive clay material that is sensitive to temperatures that exceed a specific temperature, the chemical make-up of the clay will change in color due to the changes in the molecular orbital configuration within the crystal structure of at least a portion of the clay mineral (col. 4, lines 42-67; col. 4, lines 10-42; col. 5, lines 19-35).

In reference to claims 9, 10, Wu discloses the claimed void, wherein the void is filled with the indication material, which is met by the temperature probe or indicator that can be a container or holder for holding the thermal material (col. 6, lines 20-35).

In reference to claims 11, 12, Wu discloses the claimed means for closing the material-filled void in the component, which is met by the holder or container is preferably sealed to prevent loss or contamination of the temperature sensitive composition (col. 6, lines 21-35).

In reference to claims 13-17, Wu discloses the claimed filling of the void in the component done by introduction under pressure, comprising a powder compaction of aluminum or aluminum alloy, which is met by end of a fiber optic cable was attached to the reflectance port of the spectrophotometer, and the other was covered with a cylindrical sleeve in which the dry clay powder was placed. As the sleeve was fitted to the end of the cable, the clay powder was pressed firmly against the end of the optical conducting fibers. The outside diameter of the

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sleeve was milled to fit snugly inside the cylindrical opening of the aluminum block (col. 8, lines 52-67).

In reference to claims 18-20, Wu discloses the claimed indication material comprising a ceramic foam and thermoplastic, which is met by the temperature-sensitive clay material may be mixed with an epoxy, wax, plastic or other material, or gels or foams to create a change in color (col. 6, lines 36-67; col. 7, lines 1-4).

3. The prior art of record and not relied upon is considered pertinent to the applicant's disclosure as follows. Yasuda et al. (US Pat. 4,260,978), Lerner (US Pat. 6,700,100 B2), and Morris (US Pat. 6,849,239 B2), which discloses indicators that change based on high temperatures.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davetta W. Goins whose telephone number is 571-272-2957. The examiner can normally be reached on Mon-Fri with every other Fri. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on 571-272-2964. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Davetta W. Goins  
Primary Examiner  
Art Unit 2632

D.W.G.  
March 21, 2005